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ABSTRACT

This paper provides a synthesis of the literature on the role of benchmarking, with a focus on its use in the public sector. Benchmarking is discussed in the context of quality systems, of which it is an important component. The paper describes the basic types of benchmarking, pertinent research about its application in the public sector, the purposes of performance indicators, and the types of information such indicators provide. Finally, a benchmarking framework used by the New South Wales Department of School Education in its quality-assurance program is described. Benchmarking provides the conceptual framework that integrates best practice and performance indicators, a vital component of the quality-assurance system. One figure and two tables are included. (LMI)

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INTEGRATING BEST PRACTICE AND PERFORMANCE INDICATORS TO BENCHMARK THE PERFORMANCE OF A SCHOOL SYSTEM

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INTEGRATING BEST PRACTICE AND PERFORMANCE INDICATORS TO BENCHMARK THE PERFORMANCE OF A SCHOOL SYSTEM

Introduction

This paper synthesises the literature on the role of benchmarking with a particular focus on its use in the public sector. Benchmarking is discussed in the context of quality systems, of which it is an important component. The basic types of benchmarking are discussed along with research on its application in the public sector. The purposes of performance indicators are addressed along with the types of information that they can provide. Finally, benchmarking and performance indicators are brought together in the description of the benchmarking framework that is an integral part of quality assurance in the New South Wales (NSW) Department of School Education. Benchmarking provides the conceptual framework to integrate best practice and performance indicators into a vital component of this quality assurance system.

Best Practices In Quality Management

Overview of Quality Systems

Quality systems can be viewed as having passed through four generations of development. The first generation employed quality management strategies based on concepts of quality control that relied primarily on inspection of final products and had almost no application outside the process manufacturing sector (circa 1950s and 1960s).

The second generation of development employed quality management strategies which today would be viewed as quality assurance in the narrow definition of that term. They were essentially based on the accreditation or certification of manufacturing processes against specified process and product standards. Accreditation of organisations and processes against national and international standards (eg. AS3901, ISO9000) are examples of such strategies in use today.

The third generation of quality management strategies relates to a range of disparate approaches which are often referred to collectively as total quality management strategies. These focus on both process and product standards and the 'building in' of quality through managing continuous improvement in processes. They place significant emphasis on customer satisfaction, waste reduction, routinisation of practices and teamwork (McLagan, 1991). A number of recent reports of attempts to apply such quality management practices to

schooling have appeared in the literature (Dudden, 1993; Hough, 1993; Lezotte 1992). There are a range of issue that have not been resolved in terms of the appropriateness of applying such quality management strategies to the development of schools (Capper and Jamieson, 1993; Cuttance, 1993a; see also the special edition of *Educational Leadership* of September 1993).

Current research suggests the need for a new fourth generation of quality management strategies. This generation should recognise that different quality management strategies are required at different phases of the performance development cycle in organisations. The message here is that, contrary to the received wisdom of third generation practices, there are few universal quality management strategies that are applicable across all stages of an organisation's development.

An international study of 945 quality management strategies in 580 commercial and industrial organisations found that only three quality management strategies had universal application across organisations at different points in their performance development cycle (American Quality Foundation, 1992). These were:

- a strategic focus on process improvement;
- strategic planning; and
- supplier certification programs.

The most important finding from this research was that different quality management strategies were effective in different phases of the organisational performance development cycle. In the early part of the cycle the strategies which were most effective in improving performance were:

- building teams;
- empowering staff to solve problems;
- general and specific training; and
- a strong emphasis on inspection of the product.

Organisations in the middle of their performance development cycle benefited most from:

- the use of teams, a continued emphasis on training;
- a focus on process improvement through its simplification;
- the implementation of vendor–certification programs;
- the use of quality assurance systems to enforce compliance with process and service standards;
- tight control over strategic planning; and
- the monitoring of progress against targets.

Organisations approaching the top of the performance development cycle gained most advantage from:

- empowering employees to interact directly with their customers;
- undertaking benchmarking studies;
- implementing process simplification; and

- making innovation and creativity the focus of quality assurance strategies.

The vital message from this research is that organisations need to change their quality management strategies as they progress through their performance development cycle. The strategies which are effective for improving performance at one stage of the cycle are not necessarily effective at other stages of the cycle. These findings, of course, run counter to the received wisdom of current quality management practices in the business sector. In particular, the finding that there are indeed few universal quality management strategies which are effective at different stages of organisational performance development runs counter to the main emphasis of such approaches as total quality management.

It is worth quoting the conclusions on benchmarking in the American Quality Foundation Report in full:

> [The findings show that] organisations are adopting benchmarking practices with increasing frequency.
>
> However, the best practice analysis shows that benefits from benchmarking are restricted to only the higher-performing organisations. This group shows particularly high positive impacts from benchmarking their delivery and distribution systems. They also show immediate benefits from benchmarking their marketing and customer service systems.
>
> In the lower- and medium-performing groups, there is no compelling positive impact from any of the benchmarking practices. The lower group actually shows a negative impact from benchmarking marketing and sales systems.
>
> We believe that there are two reasons why lower-performing organisations do nor benefit greatly from benchmarking practices. First they are likely to be looking at inappropriate role models. The common practice in benchmarking is to examine the "best in the world" or world-class organisations. Yet the IQS data have shown again and again that the practices that distinguish higher-performing organisations are almost always ineffective when adopted by lower-performing organisations. Lower performers probably would find organisations that are on the threshold of medium performance, rather than world-class organisations, to be more helpful models. Second, the lower-performing organisations need to focus their resources on their core infrastructure and not diffuse their focus with the sophisticated practices they would see in the best of the best. (p38)

Benchmarking

Background

Benchmarking is one of a range of strategies that have been developed over the last decade or so to assist organisations to assess and develop their performance. Harrington (1991) discusses benchmarking as one of a set of strategies available for business process improvement. Some writers treat strategies such as reengineering, benchmarking and Total Quality Management (TQM) as alternatives and others seek to integrate them. For

example, the major text on benchmarking (Camp, 1989) makes no reference to TQM, while other writers such as Wald (1993) in discussing Spendolini's (1992) *The Benchmarking Book* describes benchmarking as the cornerstone of TQM. Others claim benchmarking is the parent framework and provide a reference to strategies such as TQM, Quality Systems, Kaizen, etc as part of the overall benchmarking framework (McGonagle and Fleming, 1993). This lack of integration of the various strategies reflects the heritage of the multitude of approaches to organisational improvement that have been generated largely from the experience of particular individuals and firms.

Benchmarking as it is known in the business literature of the 1990s arises from the work of Kearns and his colleagues at Xerox in 1979, notwithstanding claims that "the Western world has finally discovered the tool that Japan used so successfully to close the quality gap in the 1960s and '70s" (Fitz–enz, 1992). Kearns was a prime mover in having benchmarking included in the criteria for the Baldridge Award, the major quality award in the USA.

Definition of Benchmarking

The concept of benchmarking has entered the common language, as is exemplified by the Australian Council of State School Organisations (ACSSO) newsletter article *Illusory Savings from Benchmarking* in February 1994. This article commented on the agreement at the 1993 Premier's Conference to establish a joint Commonwealth/State Working Party to review Commonwealth and State service provision by the collection and publication of data to allow benchmarking comparisons of efficiency. The recent announcement of the publication of Report Cards for Hospitals (Sydney Morning Herald, 22 March 1994) reflects this strategy of providing benchmark information to guide public choice in particular spheres of the provision of public services.

The ACSSO article describes benchmarking in the following terms:

> Benchmarking for government services such as health and education involves a comparison of indicators of service performance between different governments. Performance indicators measure such aspects as the cost of provision, the level of service and its quality. Data on these indicators are collected and published to allow comparisons between governments. Benchmarks of performance may then be established according to pre-determined goals such as the lowest-cost provider, the most efficient, the best quality or the most equitable provision. Performance indicators and benchmarks are not neutral technical exercises. What is to be measured depends on the objectives sought in providing a service. Different policy objectives require different performance indicators to assess whether the objectives are being met. (*ACSSO News*, Vol 3, p1, February 1994)

This description provides a reasonable guide to what is meant by benchmarking, but it has a strong consumer and public sector flavour when compared to the working definitions used in business. Kearns (1989) described benchmarking as the way an organisation continually compares itself with industry leaders to help it learn about how it can achieve high performance. The International Benchmarking Clearinghouse describes

benchmarking as a process in which companies target key improvement areas within their firms, identify and study best practices[1] by others, and implement new processes and systems to enhance their own productivity and quality (Mittelstaedt, 1992).

Features of Benchmarking

Three quarters of Fortune 500 companies in the USA engage in benchmarking (Mittelstaedt, 1992). They focus their benchmarking strategies on both processes and outputs. Tucker, Zivan and Camp (1987) suggest that managers tend to focus at first on comparing costs for particular outputs but as they become more familiar with benchmarking they discover that understanding practices, processes and methods is more important because they define the changes necessary to reach the benchmark outcomes.

Benchmarking can have either internal or external referents, and external referents can be either national or international. For example, the Australian Federal Government Best Practices Program promotes international benchmarking of Australian firms. A range of Australian firms, such as, Qantas, Commonwealth Industrial Gases, Australian Newsprint Mills Ltd and Henderson Automotive (SA) have been supported by the program to benchmark their processes against best-in-the-world standards.[2]

There are three types of comparative referent groups. Internal referents are to other units within the organisation. External referent grpups include both competitors and best-in-class in other industries.

There are essentially four types of benchmarking:

- competitive benchmarking
- internal benchmarking
- functional benchmarking
- generic benchmarking (Camp, 1989).

Competitive Benchmarking

There are a number of traps to be avoided with competitive benchmarking. Integrity of the data used for comparisons is paramount, but it is often difficult to verify this in a true competitor situation. For this reason, a significant amount of competitor benchmarking is based on relatively high level outcomes. The data for comparisons can be gleaned from a range of official and public sources,

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1 The identification of *best practice* is often taken to be unproblematic. It is, of course, nothing of the sort. The science of determining the most effective practices in an organisation and assessing which are more effective than others raises questions of interdependence in systems and of research methodology, among others. It is much more difficult in a non-experimental situation to ascertain the relative effects of parts of a system than is commonly supposed; systems theorists would argue that it is an ontological impossibility.

2 See the article in *Century 21*, No 5, p90–94, August 1992.

such as the annual accounts of companies. In principle, this should be less of a problem with comparisons between public sector organisations as they are often not direct competitors. However, they may exhibit many of the sensitivities of competitor organisations. In the long run most public sector organisations are in competition with other parts of the public sector for budget share. Further, many public sector organisations have direct competitors in the private sector; non-government schools, for example.

Another issue is that an organisation needs to benchmark against one that is better than itself. The first problem is determining which competitors are performing better. This may be easy for low performance organisations, but difficult for high performance organisations. Not only do high performance organisations tend to be more interested in productivity and quality improvement strategies such as benchmarking, they have fewer competitors worth benchmarking against. Evidence on the quality improvement strategies with highest marginal productivity suggests organisations with low performance would gain most from benchmarking themselves against organisations which are ahead of them in performance, but not so far ahead as to make comparisons incommensurate (Cuttance, 1994a). Best practice organisations have few competitors against whom it is worthwhile to benchmark — they already surpass the output performance and process standards of most of their competitor organisations.

High performance organisations that practice benchmarking have come to the realisation that they will be the recipients of a surfeit of requests to be partners in benchmarking exercises. Many of these requests will come from organisations that have little to offer them in terms of process improvement or increased productivity.

A final problem for competitive benchmarking to overcome relates to this last point. Finding out how your competitors at the same level or a marginally higher level of performance achieve their outcomes is not likely to do any more than allow you to tread water. It is certainly unlikely to provide the information to drive a substantial program of improvement the performance of your own organisation. The search for benchmarking partners is therefore destined to be somewhat one sided at the overall organisational level if restricted to competitors. This is one of the main reasons why functional and generic approaches to benchmarking have emerged.

Internal Benchmarking

As indicated earlier, internal benchmarking tends to be the first form of benchmarking that organisations engage in (McGonagle and Fleming, 1993). The problems are fewer but the payoffs may also be relatively low in most cases.

In large organisations similar functions may be undertaken across a range of different sites or in various parts of the organisation. Large conglomerates

may have several processing plants which carry out somewhat similar work. In the public sector, government school and hospital systems are examples of organisations with replicated and relatively autonomous operations across many sites. In such cases the lexicon of comparisons is likely to be better understood because of a common and shared understanding about the measurement of processes and outcomes.

Although it is often assumed that it is easier to share 'confidential' information among the various operating units of an organisation, sensitive information often brings with it anxieties and accountability issues. Comparisons within an organisation are certainly likely to be less expensive and more easily arranged than between independent organisations. However, this advantage should not be taken for granted — it can often be easier to make arrangements with an independent organisation than with an internal competitor within ones own organisation. In the finish, we all compete for status, our share of the resources, staff, etc — and the ethos of competition can sometimes be more strident within than between organisations.

In the public sector internal benchmarking will have its greatest applicability in organisations that have a large number of autonomous and replicated operations and where there is significant variation in processes and performance among operating units. In Australia, school, police and hospital systems are likely candidates, as are the various operating sites for organisations such as the post office and transportation systems. The devolution of authority in school and hospital systems and the corporatisation of many of the larger public service organisations is designed to improve performance through more efficient decision making and, in the case of corporatisation, through the introduction of internal competition (Osborne and Gaebler, 1993).

A challenge for internal benchmarking exercises is to ensure that they result in something more than a 'work harder' conclusion — one encompassing a smarter way of doing things because new connections have been made that lead to genuine innovation. The strategy for benchmarking processes and outcomes described later for the NSW government school system incorporate the idea of best practice from throughout the school system into an internal benchmarking strategy. Rather than directly compare itself with a another school each school can compare itself to best practice on a number of dimensions across all schools in the system. This provides a way of challenging the performance of individual schools, through a structured development and quality assurance review process.

Functional Benchmarking

Functional benchmarking is externally focussed but not on competitors. It is the approach to benchmarking that is driven more by a spirit of innovation than of comparison. The main strategy is to benchmark against organisations that

are leaders in their felid. The emphasis is on studying the reasons for the high performance of the organisations, through an analysis of their internal processes and strategic structures. This may result in the establishment of a lighthouse organisation through the adoption of practices that have not previously been thought of as being applicable in the particular industry. The adoption of bar coding in a range of industries after its development in the grocery industry is an example often cited. There were many examples of the cross-pollination of ideas for the use of electronic equipment in the early days of what has become known as computerisation.

In this type of benchmarking the transfer of knowledge is often more at the level of concepts and strategies than at the level of specific processes. Many quality management strategies, such as a focus on the customer, can be thought of as having taken hold through the generation of knowledge from a process similar to functional benchmarking. The strategy of multi–skilling was the spearhead of microeconomic reform in Australia during the 1980s. Multi-skilling originated in the metals industry and was transferred across to other process industries before being taken up in an adapted form by service industries. Although not discovered through a benchmarking process the transfer of knowledge across industries of this strategy parallels the transfer of knowledge in functional benchmarking processes.

Generic Benchmarking

This type of benchmarking applies to processes that are comparable across organisations which may be in different industries. For example, the payroll function can be thought of as a generic process which is independent of industry. The payroll process in a hospital in many respects resembles that of a coal mine, or a car plant. Many administrative and management functions are generic in this sense. It is still important, however, to take context into account. The concept of niche markets for managers with 'specialist' experience is based on this fact. It is mainly contextual knowledge, not processes or techniques, that differentiates between a marketing manager of a retail store and a Leagues Club.

The contextual environment is part of the equation in understanding differences in the efficiency of operations across organisations. For example, a few years ago I investigated the relative performance of the personnel/payroll function in a car plant, a public service agency and a bank. These organisations exist to carry out very different tasks. The most efficient personnel/payroll section was in the car plant which had one member of staff per 450 employees. The bank had a ratio of 1:350 and the public sector agency had a ratio of 1:200.

There were very significant differences in context. The car plant paid almost all employees weekly and had a modest employee turnover rate. The bank

and the public service agency paid a high proportion of their employees fortnightly and had very low employee turnover rates.

The employee statistics used in the above ratios were based on effective full time equivalents. This had little effect on the car plant ratio, but had a significant effect on the public sector agency's ratio, as it had a proportion of its employees working part time. The low turnover rate should have favoured the efficiency ratio of the public sector agency and the bank, but the high number of part time employees appeared to outweigh any comparative advantage from this source. Other contextual factors that were considered at the time to explain the significant differences in efficiency between the organisations were the complexity of the awards in the public sector agency and the higher level of staff training and development undertaken in that organisation.

This example shows why benchmarking does not always provide a clear answer. The main conclusion derived from this exercise was that the complexity of the award structure in the public sector agency was probably a primary factor for the additional one million dollars a year it cost to run the personnel/payroll section compared to the relative costs of an operation based on the efficiency ratio for the car plant. This additional cost amounted to about $50 per employee per year.[3]

The Benchmarking Process

Benchmarking involves measuring an organisation's performance against the best-in-class organisations. To be effective the process must provide an understanding of how the best-in-class organisations achieve their superior performance. This knowledge is then used as the basis for a strategic approach to the implementation of organisational developments that will achieve similar levels of performance in the organisation undertaking the benchmarking. Camp (1989) provides details of each stage of the benchmarking process.

Benchmarking is directly linked to the mission as specified through the goals and objectives of an organisation. It is utilised in setting the level of performance of the outcomes to be achieved and in the determination of the process improvements that are required to achieve these outcomes (Camp, 1989; Pryor, 1989). Thus, the organisation's goals are themselves derived from benchmarks based on best practice.

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[3] Compared to the $10,000+ annual non-salary costs of employing staff in most organisations this could be viewed as a minimal difference between the three organisations compared.

The benchmarking process is set out in five stages by Camp (1989) as follows:

[1] Planning
- Identify what is to be benchmarked and the data required.
- Identify comparative companies, or units/processes within the organisation.
- Determine the data collection method and collect the data.

[2] Analysis
- Determine the 'gap' between current performance and best practice performance.
- Project future performance levels.

[3] Integration
- Communicate benchmark findings and gain their acceptance.
- Establish functional goals.

[4] Action
- Develop action plans.
- Implement specific actions and monitor progress.
- Recalibrate benchmarks by returning to [1].

[5] Maturity
- Leadership action attained.
- Practices fully integrated into processes.

Benchmarking in the Public Sector

Camp (1989) provides five key reasons for benchmarking in the private sector:

- meeting customer needs;
- establishing high performance goals and objectives;
- developing true measures of the organisation's performance;
- improving competitiveness; and
- achieving industry best practices.

As a set of reasons for applying benchmarking these could apply equally to many organisations in the public sector. Public sector organisations may not be primarily in competition with others for customers or profits, but may be in a competitive situation for budget share and resources. Compared to traditional management perspectives, benchmarking provides a more significant focus on the external environment — customers, competitiveness in the market and the best practices of other organisations.

There has been an increasing focus on performance in the public sector over the last decade or so. This was the major theme of Osborne and Gaebler's (1993) important volume on *Reinventing Government*. The 1993

Premier's Conference agreed to review service delivery across states using a benchmarking approach (Sydney Morning Herald, 5 July 1993).

There are a number of reasons why public sector organisations have taken up strategies such as benchmarking to improve performance:

- the boundaries between the public and private sectors are now less definitive
- some public sector organisations are operating in a competitive environment;
- the heightened focus on privatisation and the effectiveness and efficiency of service delivery; and an
- increasing emphasis on accountability through public and open processes.

A study undertaken across government departments and local authorities in Western Australia published in 1993 shows that government had already started to utilise benchmarking strategies in its search for improved performance (Frost and Pringle, 1993). The study found that 30% of the organisations surveyed introduced benchmarking for improving productivity and/or efficiency; 19% for improvement in customer service and client satisfaction; and 15% to cost benefits and productivity.

These public sector organisations tended to compare related government agencies more than any other source and related organisations in the private sector were compared more frequently than non-related companies. Some of the organisations chose overseas public sector organisations as their benchmarking partners. The study noted that "public sector organisations need to be more aware that true benchmarking involves comparisons with industry leaders in any industry, be they related or non-related." (Frost and Pringle, 10, 1993)

Thirty six percent of the organisations used the benchmarking information to modify existing practices and to change policies, 24% utilised the information as a guide for future management planning and decision making and 18% developed performance indicators and standards by reference to the benchmark data. Only 8% of the organisations positively identified the benchmarking process as being *successful*, although 34% indicated that it was *moderately successful* a further 32% rated its success between these two levels. Twenty six percent indicated that they considered that the exercise had been *moderately unsuccessful*.

Discussion

As described in the forgoing, most benchmarking can be thought of as a quality assurance process that links targeted performance indicators for particular processes and aspects of organisational performance to a strategy for evaluating effectiveness and efficiency of processes and outcomes against

best practice in cognate organisations. The key development in benchmarking that takes it beyond the boundaries of traditional performance indicators is its incorporation of functional comparisons across organisations. In functional comparisons the focus is not on comparing the performance of like processes or outcomes, but in asking whether novel and innovative developments in one organisation have a potential application in another organisation — the bar code example above. Benchmarking is also explicitly viewed by its practitioners as incorporating strategies for the further development of processes, that is it moves beyond the benchmark knowledge to the strategic planning and development required to achieve those standards.

Performance Indicators for System Performance[4]

The literature on performance indicators in education makes the distinction between those which are *performance* indicators, and those which are *education* indicators. The term *performance indicator* is often interpreted as referring to final outputs and the term *education indicator* is often used to refer to intermediate outputs and educational processes. Such a perspective is particularly prominent in the North American literature. However, there is good reason to treat all indicators in education as performance indicators.

Indicator systems in education have been proposed in order to address a range of different issues. The main uses that have been suggested for them include:

- assessing the impact of educational reforms
- informing policy makers of the practices that are most effective for improving education
- explaining causes of conditions and changes
- informing decision making and management
- stimulating and focussing effort
- ensuring accountability
- defining educational objectives
- monitoring standards and trends
- forecasting future changes.

Each of the above uses of indicator systems in education is discussed in more detail in Cuttance (1989). Oakes (1986) has suggested that there are five types of information that indicators can provide at the operational level. These are:

- performance information about the achievement of goals and objectives

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[4] This section is drawn from Cuttance (1994b).

- information on the features of the system that are most important in achieving particular goals and objectives
- policy relevant information
- problem orientated information
- information on *central* features of the system.

Table 1 cross-classifies these five types of information against the nine purposes set out earlier for education indicator systems. The five types of information can be sub-divided into those which are derived from *evaluations* of the system and those which are derived from routine *monitoring* of the system. The category of 'policy relevant information' is applicable to information from both evaluation and monitoring sources. Also, a certain amount of 'problem oriented information' will be made available through the diagnostic and formative components of formal *evaluation* activities, but its main source will be from *monitoring* activities in the system. From table 1 it is clear that some of the purposes put forward for education indicators draw more heavily on *monitoring* activities and others draw more heavily on *evaluation* activities. Thus, an indicator system which encompasses all nine purposes would need to gather information from both formal and informal evaluations and from routine monitoring of the system.

Table 1 Purposes of education indicator systems and the types of information they need to provide

Purpose of Performance Indicator	Type of Information Required				
	Evaluation			Monitoring	
	Achievement of goals & objectives	Features responsible for performance	Policy relevant information	Problem orientated information	Information about central features of the system
Assessing impact of reforms	X	X	X		
Assessing most effective practices	X	X	X	X	
Explaining causes & conditions	X	X	X	X	X
Decision making & management	X	X	X	X	X
Stimulating & focusing effort	X	X	X	X	X
Ensuring accountability	X		X		X
Defining objectives		X	X		X
Monitoring standards & trends			X	X	X
Forecasting future change			X	X	X

Strategic Information to Assist the Improvement of School Systems

The concept of benchmarking is normally applied to individual organisations, units within organisations or individual processes. In the context of school systems schools and individual processes within schools may be the focus of benchmarking, but the systems themselves could also be the subject of a benchmarking exercise.

Cooley (1983) discusses the information requirements for improving education systems. The research literature on the initiation and management of change and decision making process in large systems provides a framework for determining the key features of information required as part of the improvement process. The literature on the utilisation of research in the policy making process and models for educational evaluation can be viewed for the present purposes as particular strands within these perspectives. In the context of organisational change, the work of Berman and McLauchlin (1974) and Elmore (1983) provide models that bridge these two perspectives. Fullan

(1991) provides a detailed overview of the factors that are of primary interest in successful organisational change in complex educational organisations.

The 'rational' model of decision making posits that systems make decisions, and act on them, in response to data and frameworks for deliberative action. Action–based models, such as those embodied in change strategies involving a significant degree of stakeholder participation posit that the 'political' environment of the organisation is a determining factor in both shaping the data and the orientation to action.

The quality management literature emphasises gradual or continuous improvement rather than structural or large scale change. Quality management approaches can be criticised for a failure to recognise the necessity for both continuous improvement and significant structural change in complex organisations (Cuttance, 1993a; Nohria and Berkley, 1994). Both continuous improvement and structural change require ongoing monitoring systems to assess progress towards desired outcomes.

Cooley (1983) provides a discussion of the key factors for successful monitoring in school systems. He argues that there are two primary features of such systems for the continuous monitoring of progress:

- a client orientation, and
- a systems approach to program improvement.

Client Orientation

A client orientation is necessary if the data made available from the monitoring system are to influence the alternative perspectives that decision makers bring to the situation. Without a clear and agreed position of who the clients are, and there may be more than one type of client, the information gathered through the monitoring system will have little relevance to decisions that focus on improving the outcomes of the system. The value of information in relation to outcomes for clients is not that the data determine priorities or settle policy issues but that they permit those issues to be argued more productively (Cooley, 1983). An effective client orientation in the monitoring system requires that the system itself allow for interaction with clients in the data gathering process.

The effective use of new information from monitoring activities requires strategies for ensuring that decision makers digest the data available. The data must be integrated into the decision maker's working knowledge of the situation (Kennedy, 1982). Decision makers at different levels in an organisation have different sets of 'working knowledge' and it is therefore critical to the utilisation of monitoring information that its presentation be carefully tailored to these different sets of knowledge. Few decision makers at any level from the classroom to the chief executive in a school system have the luxury or the time to read long and detailed reports. Further, decision makers at the different

levels requires information about different aspects of the performance of the system.

The information required for effective decision making and action need not aspire to be generalisable to other situations and contexts. Indeed, its utility is significantly dependent on its contextual nature. "What seems generalisable are the approaches . . . for generating information needed to [respond] to clients in a particular context at a particular time." (Cooley, 1983; 7)

A Systems Approach to Improvement

The systems approach that Cooley describes is focussed on the continuous use of indicators to monitor performance and adapt practice to the requirements of the situation. This is contrasted with the alternative of employing periodic summative evaluations to assess the success of discrete programs. The approach of summative program evaluation provides a static view of the performance of a program. Programs, however, are dynamic and are continually impacted by other extant programs, new programs and general turbulence and influences in the system's environment. Further, program evaluations take a significant time to complete and it is not uncommon to hear that decision makers had to make the decision before the information from the evaluation was available.

This does not mean that there is not a role for summative program evaluations in assessing the performance of school systems, rather that the role should not be seen as one which can provide responsive information of a dynamic nature as required for management decision making. Summative program evaluations aim to provide infrequent but accurate information, whereas the needs of decision makes is for frequent information, even if it is somewhat less accurate. The power of the data provided from a monitoring system is gained from its contribution of contextual understanding to the working knowledge of the decision maker and the corroborative information it contributes to indicate situations where performance has moved out of the expected range in specific sectors of the system, or over time. Such monitoring information allows the decision maker to take action as appropriate in response to information that things are not proceeding according to the way that they were expected to do so. The accumulation of information from such monitoring systems can provide the basis for establishing the areas in which a system needs to focus its attention in improving overall performance.

Monitoring systems can also provide an indication of the distribution of performance throughout a school system in relation to a particular indicator. This supports meta-level inferences indicating whether the system is performing uniformly or whether there are performance issues that require attention in particular parts of the system. For example, in a school system there may be particular performance issues in the high school sector that are not found in the primary school sector. The adaptiveness of teaching strategies

to student learning styles is one such issue of relevance to Australian school systems.

Where monitoring over time provides information that performance is deteriorating or not meeting expectations after focussed corrective action has been taken there is a need to establish a broader understanding as to the nature of the problem. This provides an important and fundamental role for program evaluation. The contribution of program evaluations to system performance rests less on summative information than on formative and diagnostic analysis of the issues responsible for performance. Clearly, an assessment of the summative performance of a program is required before any analysis of the issues impeding the achievement of program objectives can be undertaken, but this by itself is of little utility in managing the performance of a school system. Decision makers require an analysis of the potential responses they could make to particular performance problems. The solution should not be bound entirely by the program under evaluation, as management also requires to assess the likely impact of any response on other programs.

The outcome of an effective performance indicator system, therefore, is guidance for priority setting and the provision of data to inform appropriate action, which may be focussed corrective action. Over time a performance indicator system should also provide information about how the school system is responding to changes in its external environment. This information should be extrapolated to provide limited 'over the horizon radar'.

Discussion

The role of performance indicators in the context of benchmarking is indicated by the fact that all the purposes put forward for performance indicators can be met through benchmarking, although this is not to argue that any organisation should seek to do so. The role of benchmarking and the purposes of performance indicators can be considered to be congruent if the content of the information provided is appropriate.

The information provided by the best practice statements in school reviews is reflected in a series of indicators referred to as 'pointers', an example of which is provided in table 2. The difference between these indicators and traditional performance indicators lies in the interpretation usually made of such data. The best practice pointers are most definitely not a comprehensive description of the characteristics or qualities of the activities being recorded. In reality this is also true of traditional performance indicators, although this is often forgotten when it comes to assessing their implications for policy and practice.

Table 2 Example of Pointers for a Best Practice Statement

Dimension of practice	Teaching & Learning
Aspect of practice	Planning & implementation
Best practice statement	Teaching programs provide for appropriate sequencing and continuity of learning for each student
Pointers	• A clear set of markers for sequential skill development • Recording of student progress relative to previous learning • Recognition of progress along each student's learning curve • Individual learning profiles for each student • Evidence of a progression of skills/knowledge/concepts in the teaching program • Ongoing assessment of each student's progress.

Program evaluations conducted as an adjunct to a performance indicator and monitoring process provides much of the information that benchmarking requires to carry it forward from the analysis stage outlined earlier to the understanding of why a process or organisation is performing as it is.

Benchmarking a School System

There have been only two published articles in education that refer to benchmarking of the type described in this paper (Doyle, 1993: Faidley and Musser, 1991). The essential elements of benchmarking as described above that will be discussed in this section deal with both internal and external forms of benchmarking in the NSW Department of School Education.

The benchmarking process is an integral part of a broader quality assurance system. The quality assurance system provides a framework for reviewing the performance of all schools on a regular basis and for determining the focus for further development in each individual school. Quality assurance school reviews are undertaken as a collaborative exercise between the school and its

community with assistance from the Quality Assurance Directorate. School reviews focus on the performance of the individual school, factors impeding or enabling that performance, and the further development required to better to meet the educational needs of the local school community (Carbines, 1994; Cuttance, 1993b).

An essential element in the quality assurance system is the establishment of a set of statements describing best practice throughout the school system (Highett, 1994). The best practice statements have been developed collaboratively between practitioners and researchers in the NSW school system. Research on effective practices in other system and on the variation in practice in this school system has been used to augment practitioner's understandings of the most effective practices in different contexts. This external research focus allows the benchmarking system to meet the major requirements of external generic benchmarking as described earlier in this paper. The use of practitioner understandings of best practice in the school system as a means of reviewing the performance of individual schools means that the process has significant elements of internal benchmarking as described earlier in this paper.

The benchmarking process focuses on the value–added outcomes for individual schools as a way of determining the stage of development in terms of a performance development cycle (Cuttance, 1994a). This is crucial given the findings of the American Quality Foundation study on best practice that there are few universally effective quality management practices and strategies, and that particular strategies and practices have greater marginal effectiveness at different stages of the performance development cycle..

The best practice statements have been developed across three key dimensions of school practice: teaching and learning, management and governance, and leadership and culture. An important element of the best practice framework is the evaluation of the effectiveness of practices at different stages of the performance development cycle. This will be undertaken through a research analysis of the effectiveness of individual best practices in relation to the value–added performance of individual schools. In essence, this takes the mainstream research methodology of school effectiveness a step further than that which has normally been the case. Many school effectiveness studies have researched the effectiveness of individual practices against performance in terms of student outcomes, but none have considered this in the context of performance development cycles for schools.

The Best Practice Statements

The best practice statements have been collaboratively developed by practitioners and researchers in the school system. They are designed to reflect the outcomes of effective practices in schools in different contexts. Their primary purpose is to provide an agreed framework for the negotiation of focus

areas for the indepth review of the performance and development of individual schools. These reviews are undertaken collaboratively with schools and their school communities and the findings published in public reports. The statements take into account the fact that schools work in different contexts and move through stages of performance development. The interpretation of the best practice statements is context sensitive so that they relate to the particular client population of the school. They provide a background against which the school community can test their strategic plan and determine areas for further development in the school.

The statements themselves are neither prescriptive nor comprehensive descriptions of the way to implement best practices. Rather, they describe the key characteristics that are expected to be observable as the outcomes of effective practices in terms of student learning. Thus, they respect the professional integrity of staff in schools to make their own judgements about the way in which the statements apply to their context. In terms of the literature on performance indicators these statements are high-inference indicators of the outcomes of the practice and functioning in schools across the system.

In drawing up the framework for the best practice statements the project teams asked the following three questions:

- What are the major dimensions a school's operation?
- Within these dimensions, what are the major areas operation and functioning that define the scope of that dimension?
- How would teachers and others in schools describe best practices in that dimension and what 'pointers' would indicate that best practices were a part of the particular school's operation?

During the development process the best practice statements were trialed in a large number of schools. To date about three thousand school based staff and others have provided feedback on the draft statements. Each of the dimensions of the best practice statements are set within an overarching context of the mission for the school system.

The Benchmarking Process

The following analysis is set out in the framework for the stages of a benchmarking process as attributed earlier to Camp (1989). The first stage of the process is planning. The design of the best practice framework is intended to provide the basis for schools to identify what they want to benchmark. It is not intended that individual schools will wish to benchmark against all of the best practice statements. The framework provides a synthesis across individual schools within the overall school system as the referent for the benchmarking analysis. The data collection process will capture the professional evaluations of school–based staff of the performance of their own school against the best practice statements.

Stage two of the benchmarking process is an analysis of the information on the performance of the organisation being benchmarked against the referent organisation. This analysis will involve both an evaluation of the effectiveness of practices and of student outcomes in terms of the performance of the individual school. Full details of the development of the best practice statements and the mode of their use are available in Highett (1994) and Carroll (1994). Dawson (1994) describes their use in improving the performance of individual schools.

One of the key uses of the best practice statements in the benchmarking process is to determine focus areas based on the processes and functions for which the school wants to improve its performance. Following this the review undertakes an indepth evaluation of the focus areas to provide information about the context and the factors responsible for impeding current performance. This information is then linked to that available across schools about how the best practices of schools lead to improved performance in such areas.

The information made available to the review is discussed by the review team in structured debriefings throughout the period of the review, and communicated to the broader school community in a preliminary report at the end of the site visit and a formal public report provided soon after the completion of the visit. The review process develops a set of recommendations for the further development and enhancement of the performance of the school. These recommendations are a feature of the published final report from the review.

The principal of the school is accountable for implementing appropriate action plans to follow through on the findings from the review process. Where appropriate the principal will call on external support available through the programs and services provided by regions to schools. Directors of schools are responsible for ensuring the provision of appropriate regional support for schools to improve their performance. Each school develops an action plan and incorporates this within its general planning and management processes. A key feature of such action plans is a monitoring process to assess the effectiveness of the implementation designed to improve the school's performance.

The research that is to be undertaken to assess the effectiveness of practices in schools at different stages of the performance development cycle will be used in recalibrating the benchmarks. Validated information on best practices in terms of their relevance to the improvement of student learning outcomes will be provided from this research.

Once fully implemented the quality assurance system, including the benchmarking process, will be part of the normal cycle of review–development–monitoring–review in all schools.

At a system level the benchmarking of individual schools provides systemwide information about the attainment of best practice. The gaps between current practices and best practices at system level provide the basis for enhanced decision making to ensure that resource allocations, particularly in the area of training and development of staff, target those areas in which practice is furthest from current best practice. Figure 1[5] indicates the type of information that is provided at system level. Practices at the top of the figure are those for which the smallest gap exists between current practice and the best practice statements across schools in the system. As performance indicators these benchmarks are different from the traditional performance indicator in school systems because they have the characteristic of assessing performance in relation to best practice.

Discussion

The American Quality Foundation study assessed the efficacy of benchmarking practices as part of its overall quality management study. The study found that the greatest benefits of benchmarking were for organisations that already had high levels of performance. However, the study also suggested that organisations at other stages of their performance development cycle may benefit from benchmarking if they focus on benchmarking against organisations at a similar stage of their performance development cycle, or marginally ahead of them, rather than the best-in-class organisations. This is an important caveat to receive the wisdom on the effectiveness of benchmarking and may explain why some of the public sector organisations that have already tried benchmarking have not found it to be completely successful as a strategy for improving their performance.

Benchmarking in the public sector has been in use for some time, although it is not yet widespread. Careful consideration needs to be given to any benchmarking exercise to determine clearly the objectives and the context in which it is to be applied. In particular, the outcomes expected from the exercise need to be clearly understood. Where these include a focus on the acquisition of innovative strategies that could be applicable to the organisation, an external partner should be chosen for functional benchmarking purposes.

Benchmarking can be linked to the practice of using performance indicators that is widespread in the public sector. However, it requires two significant developments beyond the traditional use of performance indicators. The performance indicators themselves must encompass both performance in terms of outcomes and the effectiveness and efficiency of *processes*

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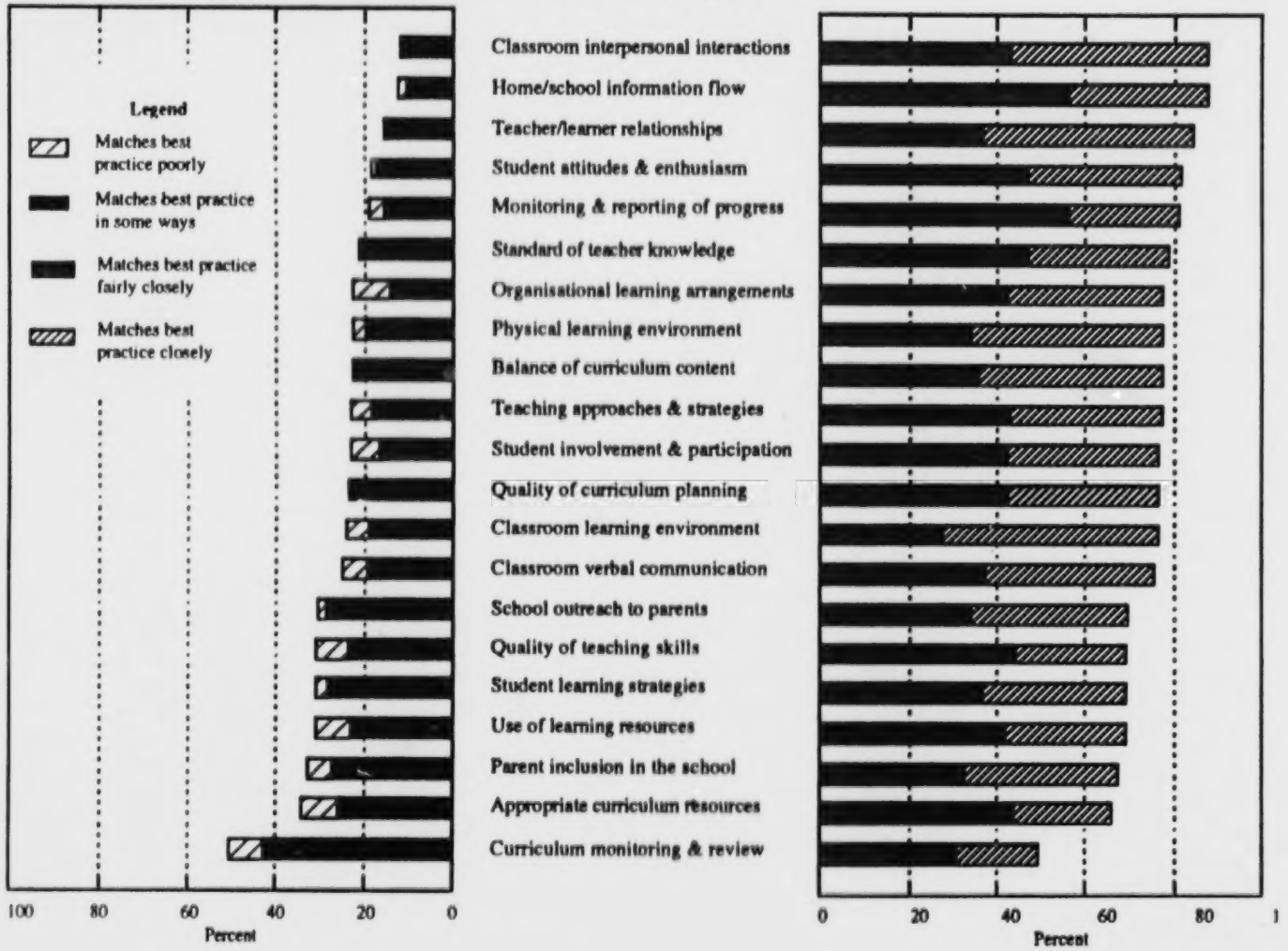
[5] The data on which this figure is based are fictitious.

responsible for producing those outcomes. Few performance indicators in the public sector address this latter aspect of the effectiveness and efficiency of processes. The interpretation of the performance indicator information must also take best practice as its referent standard. Thus, the performance indicators should be utilised as a basis for assessing the gap between current practice and best practice. Performance indicators that are an integral part of a benchmarking system address each of the key purposes of most public sector performance indicator systems.

Benchmarking in the NSW Department of School Education is one element of an integrated quality assurance system. The benchmarking process is used in the context of indepth reviews which focus on the gap between current practice and best practice in schools. The benchmarking information is used to identify key focus areas for the reviews. Extensive evaluation is then undertaken in these key focus areas to understand the factors responsible for the schools current performance and to clarify the strategies that it might pursue in its improvement of performance and for further development to meet community needs for education.

The outcomes of this benchmarking process also provide vital information at the system level to support decision making about the allocation of resources. It also provides information that supports the program evaluation function in targeting gaps in the provision of programs and services to schools to meet government policy for schooling.

Figure 1 Benchmarks for various aspects of practice in the Teaching and Learning dimension



QA Ref: SYS BM.Fig1 [Printed 24/03/94 15:25:35]

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